BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF THE APPLICATION	**)**	
OF PUBLIC SERVICE COMPANY OF	**)**	
COLORADO FOR APPROVAL OF ITS	**)**	**PROCEEDING NO. 21A-____E**
2021 ELECTRIC RESOURCE PLAN AND	**)**	
CLEAN ENERGY PLAN	**)**	

DIRECT TESTIMONY OF RICHARD L. BELT

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

March 31, 2021

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2021 ELECTRIC RESOURCE PLAN AND CLEAN ENERGY PLAN	**)** **)** **)** **)** **)**	**PROCEEDING NO. 21A-____E**

DIRECT TESTIMONY OF RICHARD L. BELT

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
2021 ERP & CEP	2021 Energy Resource Plan and Clean Energy Plan
ATM	Alternative Transfer Mechanisms
C-BT	Colorado Big Thompson
cfs	Cubic foot per second
ERP	Electric Resource Plan
HRSG	Heat Recovery Steam Generator
PBWW or Pueblo Water	Pueblo Board of Water Works
Public Service or Company	Public Service Company of Colorado
Tri-State	Tri-State Generation and Transmission Association
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Services Inc.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2021 ELECTRIC RESOURCE PLAN AND CLEAN ENERGY PLAN	**)** **)** **)** **)** **)**	**PROCEEDING NO. 21A-____E**

DIRECT TESTIMONY OF RICHARD L. BELT

I. INTRODUCTION, QUALIFICATIONS, AND PURPOSE OF TESTIMONY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Richard L. Belt. My business address is 1800 Larimer Street, Denver, Colorado 80202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am employed by Xcel Energy Services Inc. ("XES"). My position is Director of Chemistry and Water Resources within the Environmental Services Department of Energy Supply, which is the non-nuclear generation business unit of Xcel Energy. Prior to my current role, I was the Supervisor of the Water Resources Team. XES is a wholly-owned subsidiary of Xcel Energy Inc. ("Xcel Energy") and provides an array of support services to Public Service Company of Colorado ("Public Service" or "Company") and the other utility operating company subsidiaries of Xcel Energy on a coordinated basis.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Public Service.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AND QUALIFICATIONS.

A. I lead the teams responsible for managing the water resources used in electrical generation for the Xcel Energy utilities, including both Public Service Company of Colorado and Southwestern Public Service, in addition to leading the chemistry function serving electrical generation across all of Xcel Energy. I have been in my current role for four months, and prior to this role I served in various roles within the Water Resources area for ten years. I was a consulting water resources engineer in a number of organizations for approximately fifteen years prior to joining Xcel Energy. A description of my qualifications, duties, and responsibilities is set forth after the conclusion of my Direct Testimony in my Statement of Qualifications.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. I provide an overview of the Company's existing water rights and where and how they originate, water use, and water use reduction goals associated with the transition to renewable and carbon-free generation. Further, I provide a more detailed review of water-related aspects of the proposed actions at the Company's coal generation plants as detailed in the 2021 Electric Resource Plan and Clean Energy Plan ("2021 ERP & CEP"), specifically Craig Station, Hayden Station, Pawnee Station, and Comanche Unit 3. Finally, I discuss why retention of most of the associated water rights helps ensure future optionality to deliver potential benefits both to the Company's customers, and to the communities in which we

operate. Overall, I demonstrate how the Company continues to serve as a prudent steward of the various water rights it owns as the Company's generation portfolio continues to evolve consistent with the vision set forth in the Company's Clean Energy Plan.

Q. ARE YOU SPONSORING ANY ATTACHMENTS AS PART OF YOUR DIRECT TESTIMONY?

A. No.

Q. CAN YOU SUMMARIZE WHAT THE COMPANY PROPOSES IN ITS CLEAN ENERGY PLAN WITH REGARD TO THE COMPANY'S WATER RIGHTS?

A. The Company's plan with regard to its water rights are tied to, and consistent with, the Company's plans for its coal generation assets as set forth in this 2021 ERP & CEP. Table RLB-D-1 below summarizes the Company's plans specific to water rights.

Table RLB-D-1: Summary of Plans for Those Water Rights Affected by the Clean Energy Plan

Generating Asset Name (water right identifier)	Ownership Status	Action Summary
Craig Station (multiple water rights)	Owned	Retain
Hayden Station (multiple water rights)	Owned	Retain
Pawnee Station (contract water supply)	Leased	Do not renew when converted to gas
Pawnee Station (multiple water rights)	Owned	Retain
Comanche Station (contract water supply)	Leased	Terminate upon retirement of Unit 3

II. WATER USAGE OVERVIEW

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. In this section of my Direct Testimony, I describe how water is used to generate electricity, the volumes of water currently used for generation in Public Service's service territory, and how those volumes will change under the future plans proposed in this 2021 ERP & CEP. I also discuss the Company's goal to reduce water consumption in conjunction with its transition to increased renewable generation and the Company's leadership in innovative water partnerships throughout the State.

Q. HOW DOES THE COMPANY OBTAIN THE WATER RIGHTS IT REQUIRES TO OPERATE ITS GENERATING FACILITIES?

A. The Company typically obtains water rights in one of two ways. First, the Company, (or its predecessors or partners) may directly appropriate a water right via a decree from one of the seven Colorado Water Courts established for that purpose throughout the State. A direct appropriation of water rights results in a water right which is owned by the Company. Alternatively, the Company can lease the water rights appropriated by others and access that water according to the terms and conditions of the contract executed between the parties. Typically, once the lease is no longer needed or has reached the end of the contract term, the water supplied under the lease reverts to the lessor.

Q. WHAT IS THE COMPANY'S OVERARCHING STRATEGY WITH REGARD TO WATER RIGHTS?

A. Generally, once a generating station reaches the end of its life, the Company maintains ownership of those associated water rights which it owns. Typically, these water rights can be maintained at little to no cost and continued ownership preserves the Company's option to construct water-using generating facilities in the future at significant savings to customers. In the case of water rights supplied by contract or lease, the Company may seek to discontinue the contract or lease if that is the most cost-effective approach, but in some instances it may make more sense to maintain the lease through its full term to avoid burdening customers with excessive costs which may be imposed by an early contract termination, such as the water supply contract with the Pueblo Board of Water Works ("PBWW or "Pueblo Water") for Comanche Station which is discussed later in this Direct Testimony.

Q. PLEASE DESCRIBE THE WAYS IN WHICH WATER IS USED AT PUBLIC SERVICE'S GENERATING FACILITIES.

A. Water is used in a variety of processes at Company facilities, primarily depending on the type of plant. In the discussion below, I reference consumptive water use which is defined as that water which is diverted, evaporated and lost to the local hydrologic system.

For coal generation facilities, water is primarily used to cool and condense water circulating through the facility's boiler system. In the cooling tower, water contacts the boiler circulating water system, cooling the steam contained therein.

Depending on the facility, this can account for approximately 90 percent of onsite water consumption. Other uses of water at a coal-fueled plant may include boiler feed water, cooling water for other systems, removal of ash from the boiler, emission control systems, and domestic purposes for plant personnel.

For gas generation facilities, water use depends on whether the plant is a simple cycle or combined cycle unit. In simple cycle units, water use is generally limited to cooling generating equipment, which is generally non-consumptive, and cooling the air being drawn into the unit to increase generation efficiency, which is consumptive. In combined cycle units, water use (both consumptive and non-consumptive) by the gas turbine portion of the cycle is similar to that for simple cycle units. Waste heat exiting the gas turbines is used to generate steam which is subsequently used to generate additional electricity through the heat recovery steam generator ("HRSG"). The HRSG steam cycle consumes water for cooling similar to the steam cycle in a coal-fueled unit, described previously. Depending on the facility, HRSG steam cycle cooling accounts for approximately 90 percent of the plant's water consumption. Other uses of water may include inlet cooling, boiler feed and make-up, ancillary systems, emission control systems, and domestic purposes for plant personnel. Combined cycle gas plants use approximately 60 percent of the water that a coal plant uses for a similarly sized plant.

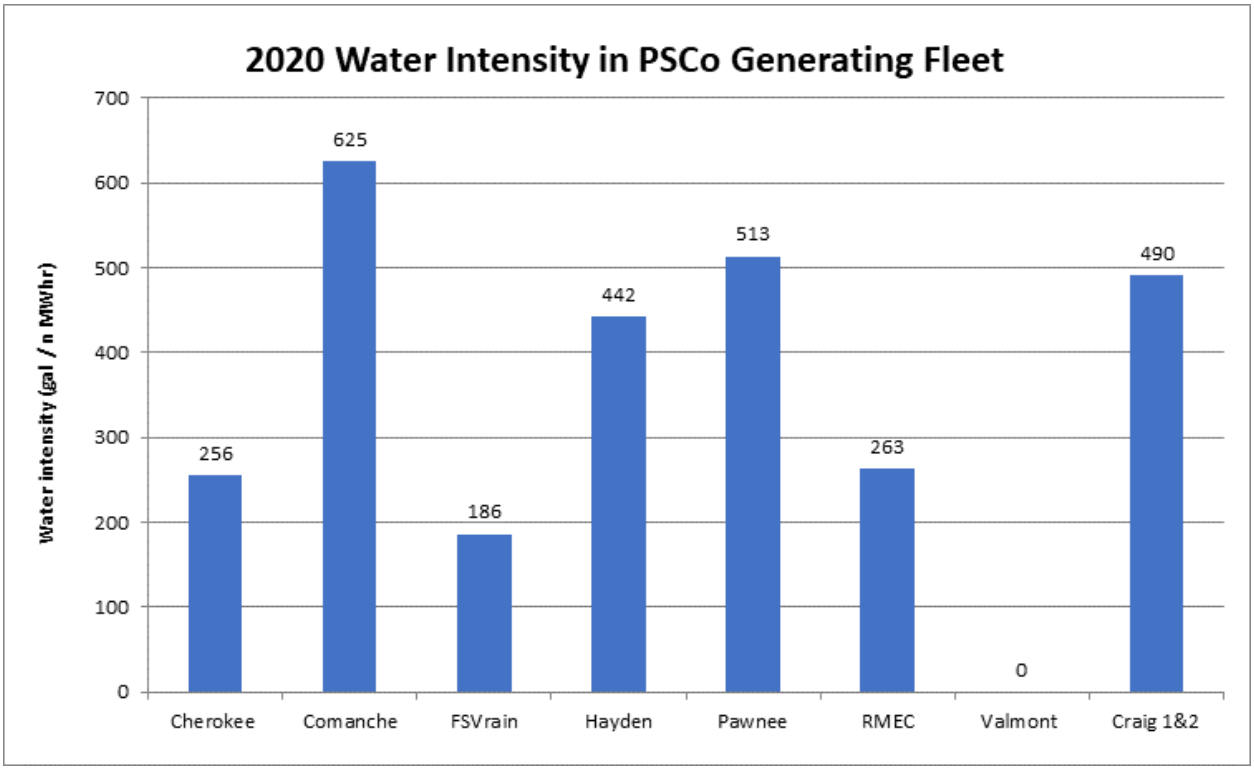
Hydropower generation is distinct from coal and gas generation described previously in that it uses water as "fuel" to directly turn the turbine and generate electricity, and it then exits the system undiminished in quantity. Hydropower

plants can be supplied with water based on the run of the adjacent river, or can be supplied via a reservoir, which may also be used to augment generation during periods of reduced water flow. Water may also be recaptured and reused in a downstream reservoir in the case of pumped storage (as at the Company's Cabin Creek facility), but most often, water is returned to a river for use by others downstream of the plant. Water consumption is generally negligible in the actual process of hydropower generation, but is a byproduct of storing water in reservoirs, due to the evaporation from the reservoir surface.

Q. WHAT ARE THE ANNUAL WATER CONSUMPTION VOLUMES FOR PUBLIC SERVICE'S GENERATING FLEET?

A. Annual water consumption for Public Service's generating fleet is summarized in Figure RLB-D-1 below. The water intensity units are gallons (gal) per net megawatt hour (nMWhr).

Figure RLB-D-1



Q. IS IT ANTICIPATED THAT THE COMPANY'S PREFERRED COAL ACTION PLAN WILL CREATE WATER SAVINGS?

A. Yes. As power plants are retired, or operated less frequently as compared to current operations, the resulting water consumption will be reduced.

Q. IS IT IN THE BEST INTEREST OF PUBLIC SERVICE CUSTOMERS FOR PUBLIC SERVICE TO MAINTAIN WATER RIGHTS?

A. Yes. The Company has announced a goal to reduce carbon emissions 80 percent by 2030 and 100 percent by 2050. The changes which will effectuate this result, including additions in renewable resource generation and a reduction in overall fossil generation amounts, will concurrently reduce the overall water consumption associated with the Company's generation portfolio. In 2020, these efforts have

already resulted in a nearly 30 percent reduction in water use in the Company's service territory, as compared to 2005. The Company anticipates water consumption reduction of approximately 70 percent by 2030, compared against the 2005 baseline. As stated previously, although the Company anticipates reduced water consumption going forward, the Company will maintain ownership of water rights (at little to no customer cost) to maintain future generation type and locational optionality because maintenance of these water rights has little to no cost to customers and, in many cases, will be very costly to reacquire if needed in the future, if they are available at all.

Q. CAN YOU DISCUSS HOW THE COMPANY HAS BEEN A LEADER REGARDING WATER ISSUES IN COLORADO?

A. Public Service has been a leader in addressing challenging water issues in Colorado for many years, and the examples below serve to highlight a few ways in which the Company's water portfolio is managed to benefit both customers and the communities in which we operate.

First, the Company pioneered a network of legally-decreed alternate points of diversions, exchanges, and contracts which allows water to be moved between its generating facilities on the South Platte River. This network extends from Shoshone Station near Glenwood Springs on the Colorado River to Brush on the South Platte River in northeast Colorado. This novel inter-plant sharing system creates significant operational flexibility to address supply disruptions or drought while maintaining reliable generation at relatively low cost, providing significant value to our customers.

The Company also annually trades Public Service-owned Colorado-Big Thompson Project ("C-BT") units with the City of Longmont for a like-amount of the City's reusable wastewater effluent or other raw water supplies. This trade benefits Longmont because it supplies the City with high-quality water at a location with significant existing City infrastructure to treat and deliver this water to its customers. The trade benefits the Company and its customers by simplifying water delivery logistics and extending the water's utility to other plants that cannot otherwise use C-BT units directly. The Company estimates that this trade has saved substantial costs for utility customers due to avoided reservoir construction costs with benefits also accruing to the City of Longmont and its residents.

Q. CAN YOU ALSO DESCRIBE HOW THE COMPANY HAS BENEFICIALLY PARTNERED WITH AGRICULTURE INTERESTS IN THE MANAGEMENT OF WATER RIGHTS?

A. The Company has partnered with agricultural interests since the 1990s to pioneer the use of alternative transfer mechanisms ("ATMs") which are an alternative to the permanent dry-up of agricultural lands. The Colorado Water Conservation Board's 2015 Colorado Water Plan specifically promotes ATMs as a method to provide water supply to municipal and industrial uses while mitigating the economic injury to rural communities caused by the permanent dry-up of agricultural lands. In our ATM project, the Company leases water from our agricultural partner to supply Pawnee Station during the summer months. Our agricultural partner is an enterprise of the Fort Morgan Reservoir and Irrigation Company ("the Fort Morgan Water Company") which consists of irrigation company shareholders who elected

to enroll a portion of their water rights in the Fort Morgan Water Company in return for a share of the profits of the water lease with Public Service. In most years, water to serve the lease is generated through the Fort Morgan Water Company's managed groundwater recharge program and individual farmer's water supplies are unaffected by the lease to Pawnee Station. In years when the managed groundwater program fails to yield sufficient water to meet the lease obligation to the Company, farmers then dedicate a portion of their reservoir water right to Pawnee Station to make up the deficit, reducing irrigation water supplies to the participating farmers in those years. This program benefits the participating farmers by providing an additional reliable annual income source which has been used to finance on-farm irrigation efficiency improvements among other benefits. The Company and its customers benefit through having a secure water supply for generation at a lower cost than would have been obtained through a traditional permanent buy-and-dry arrangement. The State benefits because the ATM serves as a model for others who may wish to enter similar arrangements in the future to address growing municipal water demands while ensuring the stability of rural economies.

III. WATER RIGHTS ASSOCIATED WITH THE PREFERRED COAL ACTION PLAN

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. In this section of my Direct Testimony I describe the issues and impact of the Company's preferred coal action plan, (i.e., early retirements, fuel conversion and reduced operations), on Public Service's water rights associated with Craig Station, Hayden Station, Pawnee Station, and Comanche Unit 3.

A. Craig Generating Station

Q. PLEASE DISCUSS THE PROPOSED ACTION AT THE CRAIG GENERATING STATION.

A. As discussed by Company witness Ms. Alice K. Jackson, Craig Station Units 1 and 2 make up the Yampa Project. The Yampa Project owners include PacifiCorp, Platte River Power Authority, Salt River Project, Tri-State Generation and Transmission Association ("Tri-State"), and Public Service. The Yampa Project owners agreed to retire Unit 1 by the end of 2025 and Unit 2 by September 2028. Craig Unit 3 is wholly-owned by Tri-State and it is scheduled to retire by 2030.

Q. WHAT IS THE COMPANY'S OWNERSHIP PERCENTAGE OF CRAIG UNITS 1 AND 2?

A. The Company owns approximately 10 percent of Units 1 and 2.

Q. DOES THE COMPANY OWN WATER RIGHTS ASSOCIATED WITH THE CRAIG GENERATING STATION?

A. Yes. The Company owns a pro-rata portion of the water rights portfolio used to operate Units 1 and 2. Units 1 and 2 use an average of 9,450 acre-feet of water annually.

Q. PLEASE DESCRIBE THE WATER RIGHTS ASSOCIATED WITH CRAIG STATION UNITS 1 AND 2.

A. The water rights owned by the Yampa Project partnership associated with Craig Station Units 1 and 2 are outlined in Table RLB-D-2 below.

Table RLB-D-2: Craig Units 1 & 2 Water Rights

Water Right Name	Appropriation Date	Adjudication Date	Flow rate
Synthetic Products Ditch	9/17/1951	9/1/1960	25.828 cfs
Craig Station Ditch #3	11/1/1972	12/31/1974	29.93 cfs 15.07 cfs*
Four Counties Ditch #3	6/2/1958	N/A	15 cfs

*conditional portion of water right

Q. IS THERE A PLAN TO PUT THE WATER RIGHTS ASSOCIATED WITH CRAIG STATION TO USE ONCE THE PLANT IS RETIRED?

A. Tri-State is the majority owner and operating partner of Craig Station. The Company believes that Tri-State is investigating a number of alternatives, but the future use of these water rights is currently unknown.

B. Hayden Generating Station

Q. PLEASE DISCUSS THE COMPANY'S PROPOSED ACTION AT THE HAYDEN GENERATING STATION?

A. As discussed by Ms. Jackson, the Company proposes to retire Hayden Unit 1 in 2028 and Unit 2 in 2027.

Q. WHAT IS THE ANNUAL WATER CONSUMPTION AT THE HAYDEN GENERATING STATION?

A. The annual water consumption at Hayden was approximately 4,260 acre-feet in 2020. Annual water consumption has ranged from 4,060 acre-feet to 5,731 acre-feet since 2011, averaging approximately 4,960 acre-feet over that period.

Q. DOES THE COMPANY OWN THE WATER RIGHTS THAT PROVIDE WATER TO OPERATE THE HAYDEN GENERATING STATION?

A. Both the Company and the Hayden Partnership own the water rights used at Hayden Station.

Q. CAN YOU BRIEFLY DESCRIBE THE HAYDEN PARTNERSHIP?

A. The Hayden Station units are owned by several utilities, including Public Service, PacifiCorp, and the Salt River Project, through their respective interests in the Hayden Partnership, as set forth in Table RLB-D-3, below. Public Service is the operating partner of Hayden Station.

Table RLB-D-3: Hayden Ownership

Partner Name	Hayden Unit 1	Hayden Unit 2
Public Service	75.5%	37.4%
PacifiCorp	24.5%	12.6%
Salt River Project	0%	50%

Q. PLEASE DESCRIBE THE PORTFOLIO OF WATER RIGHTS ASSOCIATED WITH HAYDEN STATION AND WHICH THE COMPANY OWNS IN THE YAMPA RIVER BASIN.

A. The portfolio of water rights owned by the Hayden Project partnership and the Company is described in the Table RLB-D-4 below.

Table RLB-D-4: Hayden Project Water Rights

Name	Appropriation Date	Adjudication Date	Rate(cfs) / Vol(AF)
Direct flow			
Colorado Utilities Ditch/Pipeline	8/12/1926	10/8/1959	27cfs
Givens Ditch	8/1/1897	9/1/1960	3cfs
Wessels Canal+	9/30/1961	3/30/1964	15.35cfs 37.15cfs*
Saddle Mountain Pump Station+	8/4/1964	5/30/1972	50cfs*
Direct flow - Steamboat Lake			
Folden Ditch	10/30/1922	4/5/1937	1cfs
Thompson Ditch	7/15/1920	11/16/1934	0.33cfs
Reynold-Humphrey Ditch	6/25/1895	9/19/1902	0.5cfs
Floyd Creek Ditch	6/3/1955	3/30/1964	0.6cfs
Chris Fetcher Ditch	10/10/1952	3/30/1964	1cfs
CH Mayberry Ditch	8/3/1934	6/29/1942	2.17cfs
Rose Wheeler No.2	9/23/1929	11/10/1936	0.43cfs
Rose Wheeler No.3	8/3/1934	6/29/1942	1.92cfs
Storage			
Juniper Reservoir (Steamboat Lake)	7/8/1954	9/1/1960	5,000AF*
Hinman Park Reservoir+	8/4/1964	5/30/1972	35,000AF*
Steamboat Lake	11/18/1961	5/3/1972	5,000AF
Storage at Hayden Station			
Hayden Station Ponds	5/3/1974	12/31/1976	1,550.3AF

*conditional portion of water right
+Owned by Public Service Company of Colorado

Q. HOW LONG HAS PUBLIC SERVICE OWNED WATER RIGHTS IN THE HAYDEN AREA?

A. The Company and the Hayden partnership have owned the water rights used at Hayden Station since they were adjudicated in the 1960s and 1970s.

Q. IS IT PUBLIC SERVICE'S PLAN TO MAINTAIN THESE WATER RIGHTS?

A. Yes. Public Service plans to maintain ownership of these water rights.

Q. PLEASE DISCUSS THE COMPANY'S DECISION TO MAINTAIN OWNERSHIP OF THESE WATER RIGHTS.

A. The water rights were appropriated by the respective owner and can be maintained for at least ten years, per the State Engineer's decennial abandonment adjudication process, at little to no cost to the Company or customers. The Yampa Basin experienced an administrative declaration of shortage on the mainstem river for the first time in 2018, and for a second time in 2020 (referred to as a "water rights call"). The Hayden water rights portfolio was senior to this water rights call and unaffected by the shortage. By maintaining ownership of its comparatively senior water rights portfolio, the Company preserves the option to develop future water-using generation in the Yampa River Basin. Water-using generation could include a variety of natural gas, hydrogen, pumped storage, thermal energy storage, or other alternatives. Retaining these rights enables the Company to retain full optionality for future generation without the risk of shortage, the need to acquire senior water rights from other water users and the associated economic impact, or the need for expensive and difficult to permit reservoir storage to support a future generation facility, all of which result in significant cost savings in the

development of such a facility. It is advantageous for the Company's water rights to be used for beneficial purposes while future generation decisions are made because it keeps the water from being considered for abandonment in the State's decennial abandonment process. There are a variety of means to beneficially use the Company's water rights, including water leases.

Q. HAS THE COMPANY ENGAGED WITH OTHER PARTIES REGARDING THE POTENTIAL FOR WATER RIGHTS LEASING?

A. Yes. The Company has recently entered a water lease with the City of Steamboat Springs for 1,200 acre-feet of water, annually, from the Hayden Partner's 5,000 acre-foot water right in Steamboat Lake, providing benefits to both parties. The City benefits from the additional firm water supply and through water supply diversity by having a supply located in a different watershed than its current water supply. Importantly, this mitigates the City's perceived risk to its water supply from catastrophic wildfire which could dramatically impact both water quantity and quality and render the City's current supply unusable for years following such an event. The Company and customers benefit by beneficially using its water right until another generation alternative is identified.

C. <u>Pawnee Generating Station</u>

Q. PLEASE DISCUSS THE COMPANY'S PROPOSED ACTION AT THE PAWNEE GENERATING STATION.

A. As discussed by Ms. Jackson, the Company proposes to convert Pawnee Station to natural gas in 2028.

Q. HOW IS THE WATER THAT IS CURRENTLY NEEDED FOR THE OPERATION OF PAWNEE STATION SUPPLIED TO THE FACILITY?

A. The water for Pawnee Station is physically delivered by a five-well field located along the south bank of the South Platte River approximately 4.5 miles north of the plant and is delivered to the plant via a pipeline. It is stored in a nearly 2,870 acre-foot reservoir located on the plant site. Water is supplied to Pawnee Station through both Company-owned and contract water supplies, such as the Fort Morgan Water Company lease described previously in my Direct Testimony. Owned water supplies used at the plant include a portion of the Company's 10,007 C-BT units, a 1977 junior water right appropriated at the wellfield with the construction of Pawnee Station, and a 1998 recharge water right obtained in conjunction with the Fort Morgan Water Company. Annually, the Fort Morgan Water Company supplies 2,500 acre-feet to the Pawnee wellfield or directly to the Pawnee Reservoir, depending on conditions.

Q. WHAT IS THE ANNUAL WATER CONSUMPTION AT THE PAWNEE GENERATING FACILITY?

A. The annual water consumption at Pawnee was approximately 4,823 acre-feet in 2020. Annual water consumption has ranged from 4,087 acre-feet to 6,291 acre-feet since 2010, averaging approximately 4,833 acre-feet over that period.

Q. WOULD THERE BE A SIGNIFICANT REDUCTION IN WATER USAGE AT PAWNEE IF IT IS CONVERTED TO NATURAL GAS?

A. Water usage on a per megawatt-hour basis at Pawnee would remain approximately the same for both coal and natural gas-fueled generation, since the

plant infrastructure would remain essentially unchanged. However, the Company's preferred scenario reduces the plant's capacity factor substantially from current levels as described in the Direct Testimony of Company witness Mr. James F. Hill. This reduction in generation would result in a corresponding reduction of water consumption at the plant.

Q. IS IT EXPECTED THAT COMPANY-OWNED WATER RIGHTS WOULD BE CAPABLE OF PROVIDING SUFFICIENT WATER FOR REDUCED OPERATIONS AT PAWNEE?

A. Yes.

Q. WHEN DOES THE FORT MORGAN WATER COMPANY WATER CONTRACT WITH PAWNEE TERMINATE?

A. The current water contract terminates in 2030.

Q. WOULD THE COMPANY NEED TO RENEW THIS CONTRACT?

A. No. Company-owned water supplies which have been historically used at Pawnee Station, in conjunction with the storage afforded by the onsite reservoir, are adequate to support operations following conversion of the plant fuel from coal to gas and at the modeled capacity factor.

Q. ARE THERE ADDITIONAL BENEFICIAL USES FOR THIS WATER IN THE AREA AROUND PAWNEE?

A. Yes. The water contracted from the Fort Morgan Water Company which is currently used to serve Pawnee Station would revert back to the Fort Morgan Water Company. In addition to serving Pawnee Station, Fort Morgan Water Company provides augmentation water to support agricultural activities in the Fort

Morgan and Brush area. Further, the Fort Morgan Water Company would be free to pursue other opportunities with the water. In recent years, area water enterprises have supplied water to oil and gas development and have initiated partnerships with Front Range municipal water providers to supply water to growing metro area communities, both of which could be lucrative alternatives to the Fort Morgan Water Company if they choose to pursue them.

Q. DOES THE REDUCTION IN WATER USAGE AT PAWNEE PRESENT AN OPPORTUNITY FOR COST SAVINGS FOR PUBLIC SERVICE CUSTOMERS?

A. Yes. In 2020, the Fort Morgan Water Company contract cost just over $623,000 annually. Following conversion to gas operation and the anticipated reduced operations, expiration of this agreement will create a savings for customers.

D. <u>Comanche Unit 3</u>

Q. PLEASE DISCUSS THE COMPANY'S PROPOSED ACTION AT COMANCHE UNIT 3.

A. As discussed by Ms. Jackson, the Company is proposing to accelerate the retirement of Comanche Unit 3 by closing the unit in 2040 instead of 2070. Beginning in 2030, the Company proposes to operate Comanche Unit 3 with significantly reduced hours as described in the Direct Testimony of Company witness Mr. James F. Hill. Comanche Units 1 and 2 are already scheduled to retire by 2026.

Q. WHAT IS THE ANNUAL WATER CONSUMPTION AT COMANCHE STATION?

A. The annual water consumption at Comanche Station was approximately 7,899 acre-feet in 2020. Annual water consumption has ranged from 7,899 acre-feet to

11,392 acre-feet since 2010, averaging approximately 10,126 acre-feet over that period.

Q. WOULD THE WATER USAGE AT COMANCHE UNIT 3 BE REDUCED IF THE COMPANY'S PREFERRED PLAN IS APPROVED?

A. Yes. If the Company's preferred plan is approved, it is estimated that future water use at the Comanche Unit 3 will be approximately 40 percent of the average water usage at Unit 3 prior to reduced operations.

Q. HOW IS THE WATER PROVIDED TO COMANCHE STATION?

A. Water is physically delivered to Comanche Station (including Comanche Unit 3) via a pump station and pipeline which diverts water from the Arkansas River immediately downstream of the Pueblo Reservoir and delivers that water to an 870-acre-foot reservoir located on the Comanche plant site. The pump station and the first 4,220 feet of the pipeline are owned by Pueblo Water. Water is supplied to the plant via a contract with PBWW.

Q. PLEASE DISCUSS THE CONTRACT WITH PUEBLO WATER.

A. The PBWW contract is the sole water supply which provides for the reliable operation of Comanche Station, including Units 1, 2 and 3. The contract between the Company and PBWW was executed on July 19, 2005, terminates in 2060, and provides for the delivery of up to 14,700 acre-feet of water to Comanche Station annually. The PBWW contract provides for a maximum delivery of 14,700 acre-feet of water annually but has a minimum delivery obligation of 12,783 acre-feet which is supplied on a take-or-pay basis. This take-or-pay volume is fixed in the contract through 2035, even though the plant's overall water demand will be

reduced following the retirement of Units 1 and 2. The contract further prohibits resale/subleasing of water to third-parties despite the fact that Public Service is paying for water that it is unable to use at the plant following the retirement of Units 1 and 2.

Q. ARE THERE ANY OTHER WATER SUPPLY COSTS FOR THE COMANCHE FACILITY?

A. Yes, in addition to the base water supply contract, the Company is required to pay for the electricity to pump the water to the facility if the annual electricity charges for PBWW exceed $218,480 per year. Over the last three years, the excess electricity charges have averaged approximately $530,000.

Q. DOES THE COMPANY'S LEASE PAYMENT REMAIN CONSTANT OVER THE LIFE OF THE CONTRACT?

A. No. The lease payment is determined annually based on an initial rate set in 2006 and which can be adjusted by up to five percent annually at PBWW's discretion. In 2020, the unit rate for water was $508.10 per acre-foot and the total water contract cost was approximately $6.9 million, including excess electric charges for pumping the water as provided for in the contract.

Q. WHAT CHANGES OCCUR TO THE COMPANY'S CONTRACTED WATER OBLIGATION IN 2036?

A. In 2036, the contracted water supply is reduced to 6,000 acre-feet annually, of which 5,218 acre-feet is supplied on a take-or-pay basis. In addition, while there is no provision to adjust the contract delivery before 2035, the contract term can be reduced after 2035, with advance written notice to PBWW and payment of a

contract termination fee over four years following the final delivery of water upon cessation of generation at Unit 3.

Q. WHAT ARE THE COMPANY'S PLANS REGARDING THE CONTRACT WITH PUEBLO WATER?

A. Once Comanche Unit 3 is retired and the Company has determined that it will discontinue further water-using generation at the plant location, the Company will trigger the termination portion of the PBWW contract, and the water will revert back to PBWW for its use.

Q. GIVEN THE STRUCTURE OF THE CONTRACT WITH PUEBLO WATER WILL THE COMPANY CONTINUE TO INCUR COSTS IF OPERATIONS CEASE AT COMANCHE 3 PRIOR TO 2040?

A. Yes. If Comanche Unit 3 is retired and the PBWW contract terminated before 2040, the contract requires payment to PBWW of the take-or-pay amount associated with the 12,783 acre-foot delivery (associated with operation of Units 1, 2, and 3 described previously in my Direct Testimony) through 2035. After 2035, the early termination provision described in Table RLB-D-5 begins and proceeds as described previously. Costs following cessation of Comanche 3 operations will occur with any contract termination which occurs prior to 2060, as described in the PBWW contract. Early termination after 2036 and before 2060 occurs as described in Table RLB-D-5 and the accompanying discussion, in which the final year of water delivery to support operations is Year 0 and the subsequent payments are made in years in which no water is delivered as described in the table.

Q. PLEASE DISCUSS THE TERMS OF TERMINATING THE WATER CONTRACT WITH PBWW AFTER 2035.

A. No water is delivered, per the terms of the contract, in Years 1 through 5 of the early termination provision of the PBWW contract. In the first year following cessation of generation at Unit 3, the Company will pay 80 percent of the annual take-or-pay amount to PBWW, in Year 2 the Company will pay 60 percent of the annual take-or-pay amount, in Year 3 the Company will pay 40 percent of the annual take-or-pay amount , and in Year 4 the Company will pay 20 percent of the annual take-or-pay amount. In Year 5 following cessation of generation at Comanche 3, the water supply contract is terminated with no further payment required. The PBWW contract allows for the unit water price to be escalated annually. The estimated termination payment, in 2020 dollars, is provided in Table RLB-D-5, below.

Table RLB-D-5: Pueblo Water Contract Estimated Termination Payments

Take or pay volume in 2035 = 5,218 acre-feet		
Unit water cost in 2021 = $516.99 per acre-foot		
Reduction Year	% of Take-or-pay owed	Estimated Cost per 2021 rates
Year 0	100%	$2.698M
Year 1	80%	$2.158M
Year 2	60%	$1.619M
Year 3	40%	$1.079M
Year 4	20%	$0.540M
Year 5	0%	$0.000M

*Cost excludes excess electricity payment, which may be additional

IV. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. Public Service should retain owned water rights to maintain the option to use water to support future generation alternatives which will be necessary to achieve the goal of carbon-free electric generation by 2050. Maintenance of our owned water rights portfolio is beneficial to our customers due to the future expense of acquiring replacement water rights, if they could be acquired at all. Our water right portfolio can be maintained at little to no cost to our customers and may provide opportunities to benefit local communities through leases and other sharing arrangements while future generation siting, technology, and timing decisions are pending.

Some of the existing water contracts associated with generating units that are proposed to be retired early in the proposed plan have long-term obligations which must be considered when determining changes to our generation mix. These water supply contracts were entered before the transition to renewable and carbon-free generation was technically or financially feasible, but our future obligations under the agreements are clear and our partners expect us to meet these obligations.

Public Service is a good partner with communities, agriculture, and other industry in the management of our water resources. Over the years, we have pioneered innovative sharing agreements which provide mutual benefits and serve as a model for others in the State.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. Consistent with the discussion in my Direct Testimony, I support the recommendation of Ms. Jackson that the Colorado Public Utilities Commission ("Commission") approve Public Service's Phase I 2021 ERP & CEP.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Statement of Qualifications

Richard L. Belt

I have a Bachelor of Science degree in Civil Engineering from the University of Colorado and a Master of Science degree in Watershed Science from Colorado State University. I have taken subsequent coursework in business and finance but not in pursuit of a degree. I am a licensed Professional Engineer in the States of Georgia, Colorado and Nebraska. I am a Professional Hydrologist as certified by the American Institute of Hydrology.

I have been employed with various consulting engineering firms working on water-related projects and studies throughout the United States between 1997 to 2010.

I have been employed at Xcel Energy Services, Inc. for approximately ten years; first, as a Senior Water Resources Analyst, then as the Supervisor of the Water Resources Group, and currently as the Director of Chemistry and Water Resources.

As the Director of Chemistry and Water Resources, I am responsible for the direction and strategy of both the chemistry and water resources functions across all of Xcel Energy's utilities. With regard to water resources, this includes water supply planning and operations, including all aspects of Public Service Company of Colorado's water rights portfolio.